SECRETI CONFIDENTIAL

4 October 1955

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| MEMORANDUM FOR: | Chief, TSS/Chemical Division | |
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| ATTENTION | | |
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| SUBJECT | Invisible Light Cache Locator | |
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- 1. During a recent conference with members of the EE Division, it was ascertained that one of their critical caching problems is the exact re-location of a cache after determination of the general area.
- 2. Accepted operational techniques are satisfactory in locating the general area. However, they have failed to find a system which will place them immediately above the cache in a minimum of time. Operationally, the recovery in most instances will be attempted at night. Probes, geiger counters, etc., have been tried and found generally unsatisfactory. We do not feel that the TSS Cache Locator will add much in attempting to solve this problem.
- 3. In view of the above, we have given considerable thought to a solution that we feel is operationally feasible if the technical aspects would coincide.
- 4. Specifically, we request R&D to ascertain whether or not infrared could be adapted to cache location. For example, would it be possible to develop a fluid which would not be visible to the naked eye or react to white light, but which would be detected by an infra-red Metascope? We realize that the distance the infra-red beam can be thrown for reflection purposes is extremely limited, however, as an illustration of our thinking, let's pick an arbitrary site where recovery agents narrow the location down to an area approximately 50 yards square. A situation of this nature is most common where terrain features limit specific locator indicators. In our opinion, a system that would permit painting of rock out-croppings, large boulders, tree trunks, and other relatively stable landmarks would allow infra-red sweeping of the area in a minimum amount of time.

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5. Development of a practical method of cache location along the above lines would be of significant operational import.

Deputy Chief TSS/Special Devices Staff 25**X**1

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